Maths - Knowledge Sequencing at Knavesmire Primary		
Intent:	At Knavesmire, our Intent is that every pupil accesses a broad and balanced mathematical experience through the statutory framework for the early years foundation stage and the national curriculum. Maths is presented as a challenging, exciting, creative and relevant subject. We believe that practical and outdoor activities help children to develop and understand a range of mathematical concepts.	
Substantive knowledge in Maths :	Children know about the composition of numbers <20 and recognise numerical pattern to count beyond this. They can match numeral to quantity and they can count within this range, accurately with a range of strategies. They can compare lengths, weights, heights and capacity and use relevant vocabulary; they also have strategies for working out how to measure using non-standard units to compare. They recognise, use and name some 2d and 3d shapes and can create and extend patterns including repeating pattern. They understand odd and even and know how to share equally.	
Disciplinary knowledge in Maths:	Children use the Maths that they have learnt throughout the day. They use it in their play when they are exploring capacity in the water tray and shapes on the construction site. They explore and practise counting when lining up and doing the register to see how many children are in. They share snack out evenly at break time. They apply their Maths in a wide range of everyday situations.	
Maths:	Giving children the skills and acquisition of Maths knowledge that they can apply to real life situations.	

EYFS Maths

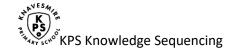
Nursery

Early Math's principles are taught through focus sessions and areas of provision in Nursery. Children are introduced to key skills that set them up for success in Reception through areas of provision, focus sessions and Maths being re-iterated through everything they do from counting out snack to spotting repeating patterns on clothing ect. We plan Maths building down from the skills and knowledge that children need to access White Rose Maths in Reception.

Children leave Nursery ready for Reception with the basic Maths skills ready to move onto more in depth learning in Reception. They can **verbally count past 5** as well as **count objects** by **stopping on the last number** that they say. They understand that **numbers represent objects** and start to **make comparisons** between objects and amounts. They develop the basic number sense needed to ne able to **subitise** up to 3 objects and they can **match numerals to amounts** up to **5**. They know what **numerals look like** and they are beginning to mark make to copy these. Children have awareness of **shapes** and know about some simple patterns including being able to **continue a repeating pattern**.

Koy Toyte

Key Texts		
My mum and dad make me laugh, Nursery Rhymes, Fish pond songs, Pirate Pete, Pete the Cat.		
Count	Order	Subitise
 Knows how to say one number for each item in order: 1,2,3,4,5. Knows how to count the total number of objects by stopping on the last number. Knows how to recite numbers past 5. 	 Compare quantities and use relevant vocabulary – more/fewer. Knows and uses some positional language such as behind, next to. Make comparisons between objects. Begins to sequence events using first and then. 	 Know how to subitise up to 3 objects.
Match	Multiply/Divide	Shape and Pattern
Links numerals and amounts		Knows some 2d and 3d



 up to 5. Knows how some numerals look and has a go at mark making some of these. 		 shapes and can talk about some properties. Knows how to use these shapes to their desired effect in play situations. Knows and describes different patterns. Knows how to continue and create repeating patterns.
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EYFS Maths

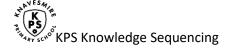
Reception

Children in Reception take part in 3 focus Math's sessions a week, the skills are embedded through areas of provision, morning calendar and every opportunity throughout the day. Children take part in a fortnightly math's activity.

Children build on skills taught in Nursery and leave Reception ready to take on the challenges of Year 1 and the National Curriculum. They understand the **concept of accurate counting** and know strategies to do this. They have a deep understanding of numbers to **10** and know the **composition** of each number as well as being able to identify the numeral and amount in a range of **contexts**. They have a good knowledge of **comparisons and ordering** and are developing strategies to measure and compare **weight**, **length and capacity**. They build on the **subitisinng** skills learnt in Nursery and are able to know how many they see up to **5** without counting. They build foundations for further multiplication and division by understanding **how to share evenly** and understanding the concept of **odd and even** numbers and **numerical patterns**. They build on their knowledge of **shapes** and start to **compose and manipulate** them as well as using them in **repeating patterns**.

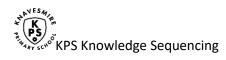
Key Texts Number songs, Rhyme time, Pete the Cat, The Crayons Book of Numbers, Spindarella, 1,2, 3 at the zoo, Noahs Ark, Night Monkey Day Monkey, Frog and Toad, The Ugly 5, 9 naughty Kittens, Pattern Fish, Round is the Moon Shape, How do Dinosaurs Count to 10? 5 Little Friends, There's a hole in my bucket.

Count/Addition/Subtraction	Order	Subitise
 Knows how to count objects, actions, sounds ect accurately using different strategies. Knows how to count beyond ten. Knows number bonds to 5 and some to 10. Knows and has a deep 	 Knows how to and understands comparing numbers. Knows ways to explore the composition of numbers to 10. Knows how to compare weight, length and capacity using non-standard measurement methods such 	 Knows how many of something they see without counting, up to 5.



 understanding of numbers to 10 including the composition of each number. Children know the vocabulary more/less than and can confidently count forwards and back up to the numbers they have learnt. Begin to use a number line to make small jumps and aid calculations. Children know that the addition of numbers/objects is adding the total together. Know that subtracting is taking away and can work out simple addition and subtraction problems using objects and pictorial representations. Start to form some numbers correctly. 	 as measuring with string or blocks. Can explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. 	
Match	Multiply/Divide	Shape and Pattern
Knows how to link the numeral with its cardinal number value .	 Knows how to share evenly. Knows what odd and even numbers are. Can split a group evenly to find the answer. 	 Knows how to select, rotate and manipulate shapes in order to develop spatial reasoning skills and knows some shape names.

		 Knows how to compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Knows how to continue, copy and extend repeating patterns.
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Moving into Year 1 and the National Curriculum

In Year 1 children build in the knowledge that they have acquired in Early Years through deepening their understanding of numerical patterns and developing the ability to **count to and across to 100**. They count in **2s**, **5s and 10s** and **write** the **numerals** and **words** for numbers <20. They become secure with **simple addition** and **subtraction** and **can read**, **record and solve** problems relating to these. They build on sharing knowledge and learn to **solve simple multiplication** and **division problems**. They further their knowledge of number and measurement and begin to learn **fractions**. They start to use **standard measurements** to measure accurately and they **know**, **describe and create** shapes and patterns. Children continue learning with the White Rose programme as a base and this builds suitably from the learning in Reception.

Number and place value	Addition and Subtraction	Multiplication and Division
 Knows how to count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Knows how to count, read and write numbers to 100 in numerals. Identify one more and one less than a given number. Knows how to count in multiples of twos, fives and tens. Knows how to identify and represent numbers using objects and pictorial representations including the number line, and use the 	 Knows how to read, write and interpret mathematical statements involving addition, subtraction and equals signs Can represent and use number bonds and related subtraction facts within 20. Can add and subtract one-digit and two-digit numbers to 20, including zero. Knows how to solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = -9. 	 Know how to solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

KPS Knowledge Sequencing

 language of: equal to, more than, less than (fewer), most, least. Can read and write numbers from 1 to 20 in numerals and words. 		
 Fractions Know how to recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. 	 Know how to compare, describe and solve practical problems for: lengths and heights, mass/weight, capacity and volume, and time. Measure and begin to record the following: lengths and heights, mass/weight, capacity and volume and time (hours, minutes, seconds.) Know the value of different denominations of coins and notes. Know the sequence of events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening] 	 Shape and Pattern Know and recognise and name common 2-D and 3-D shapes, Describe position, direction and movement, including whole, half, quarter and three quarter turns.

 Know and use language relating to dates, including days of the week, weeks, months and years Know how to tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. 	